

**isc Silicon NPN Power Transistors**
**MJ15024**
**DESCRIPTION**

- Complement to Type PNP MJ15025
- Excellent Safe Operating Area
- High DC current Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for high power audio, disk head positioners and other linear applications

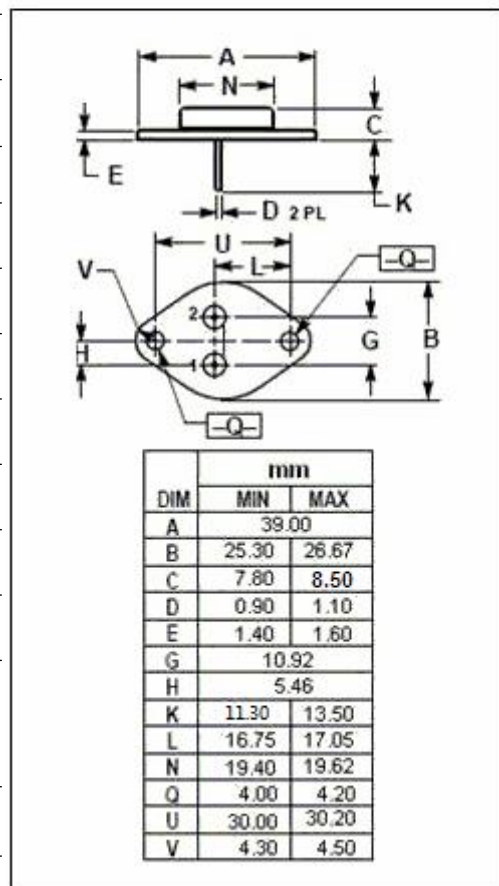
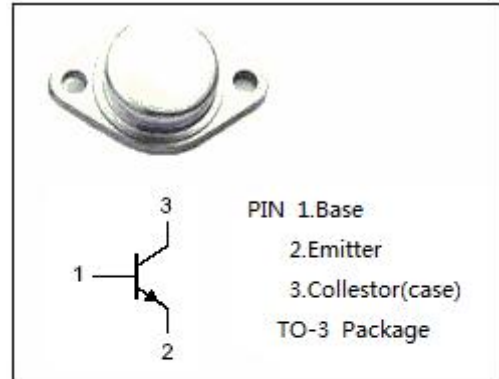
**ABSOLUTE MAXIMUM RATINGS(T<sub>c</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CB0</sub>	Collector-Base Voltage	400	V
V <sub>CEO</sub>	Collector-Emitter Voltage	250	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	16	A
I <sub>CM</sub> (1)	Collector Current-Peak	30	A
I <sub>B</sub>	Base Current-Continuous	5	A
P <sub>D</sub>	Total Power Dissipation @T <sub>c</sub> =25°C	250	W
T <sub>j</sub>	Junction Temperature	-65~200	°C
T <sub>stg</sub>	Storage Temperature	-65~200	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th-j-c</sub>	Thermal Resistance, Junction to Case	0.70	°C/W

(1) Pulse Test: Pulse Width = 5 ms, Duty Cycle < 10%.



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## ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CEO(SUS)</sub> (1)	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA ; I <sub>B</sub> = 0	250		V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 8A; I <sub>B</sub> = 0.8A		1.4	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 16A; I <sub>B</sub> = 3.2A		4.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 8A ; V <sub>CE</sub> = 4V		2.2	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 200V; I <sub>B</sub> = 0		0.5	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 250V; I <sub>E</sub> = 0		0.25	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> =0		0.5	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 8A ; V <sub>CE</sub> = 4V	15	60	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 16A ; V <sub>CE</sub> = 4V	5		
I <sub>s/b</sub>	Second Breakdown Collector Current With Base Forward Biased	V <sub>CE</sub> = 50Vdc, t=0.5 s, Nonrepetitive V <sub>CE</sub> = 80Vdc, t=0.5 s, Nonrepetitive	5.0 2.0		A
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0 ; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1.0MHz	300		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 10V; f <sub>test</sub> = 1.0MHz	4		MHz

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle &lt; 2%.

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